

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/008795 A1**

(51) International Patent Classification<sup>7</sup>: **H01L 33/00**,  
21/20, C23C 16/34

106-301, Dongbu Apt., Yatap-dong, Bundang-gu, Seongnam-si, Kyunggi-do 463-070 (KR).

(21) International Application Number:  
PCT/KR2004/001770

(74) Agent: **AN, Sang Jeong**; 512-1906, 221, Gumi-dong, Bundang-gu, Seongnam-si, Kyunggi-do 463-715 (KR).

(22) International Filing Date: 16 July 2004 (16.07.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0049501 18 July 2003 (18.07.2003) KR  
10-2003-0070759 10 October 2003 (10.10.2003) KR

(71) Applicant (for all designated States except US): **EPIVALLEY CO., LTD.** [KR/KR]; 51-2, Neungpyeong-ri, Opo-eup, Kwangju-si, Kyunggi-do 464-892 (KR).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

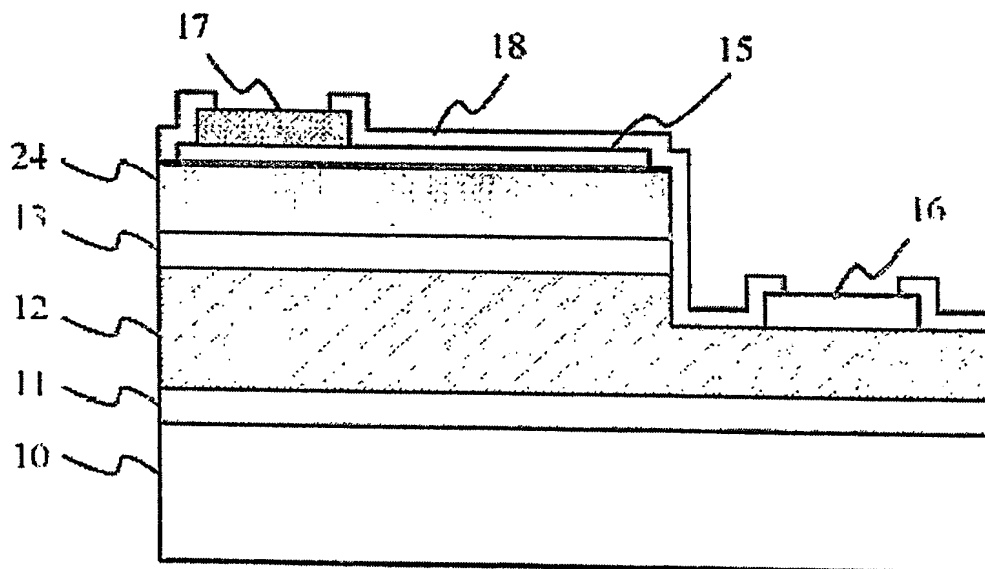
(72) Inventors; and

(75) Inventors/Applicants (for US only): **YOO, Tae Kyung** [KR/KR]; 115-603, Samsung Raemian Apt., 629, Mabuk-ri, Kuseong-eup, Yongin-si, Kyunggi-do 449-557 (KR). **PARK, Joongseo** [KR/KR]; 606-103, Samsung Raemian Apt., 1167, Bojeong-ri, Kuseong-eup, Yongin-si, Kyunggi-do 449-564 (KR). **KIM, Chang Tae** [KR/KR];

Published:  
— with international search report

[Continued on next page]

(54) Title: NITRIDE SEMICONDUCTOR LIGHT EMITTING DEVICE



(57) Abstract: The present invention relates to a nitride semiconductor light emitting device including a plurality of nitride semiconductor layers with a p-type nitride semiconductor formed using as nitrogen precursor ammonia together with hydrazine-based material which upon thermal decomposition generates a radical being combined with a hydrogen radical to eliminate the hydrogen radical, thereby eliminates the need for a subsequent annealing process for removing hydrogen and prevents the active layer from being thermally damaged due to the subsequent annealing process.

WO 2005/008795 A1



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*